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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

**Schnitzer 5**

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on **March 1, 2007**

Signature

Typed or printed name

**John Francis McCabe**

Application Number

**10/082,870**

Filed

**Feb. 25, 2002**

First Named Inventor

**Mark Schnitzer**

Art Unit

**3737**

Examiner

**James M. Kish**

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

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attorney or agent of record.

Registration number **42,854**☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

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Telephone number

**March 1, 2007**

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

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\*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**ARGUMENT FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**SUMMARY OF ARGUMENT**

Whereas the Office Action that reopened prosecution after the original Appeal does rely on new citation(s) of prior art, the new citation(s) still do not provide teachings for each feature of either independent claim, i.e., claims 1 and 13. In particular, the specific prior art citations do not teach either a compound GRIN lens or serially coupled GRIN lenses of different pitch as recited in claims 1 and 13.

**DETAILED ARGUMENT**

A) At page 2, the Office Action rejects claims 1 – 2, 5, and 12 as being anticipated by U.S. Patent 4,905,082 of Nishigaki et al (Herein, referred to as Nishigaki.).

**Claim 1**

Pending claim 1 recites:

a compound GRIN lens configured to carry illumination light along the length of the probe, the compound GRIN lens including first and second serially coupled GRIN lenses of different pitch, ...

(underlining added).

The Office Action does not cite a teaching for the two above-underlined features of claim 1.

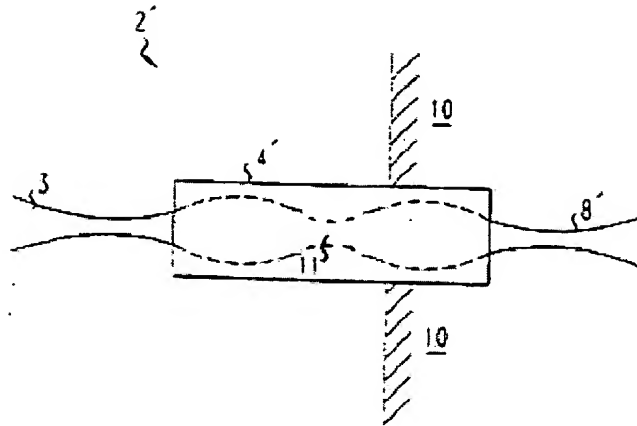
First, the prior art citations relied on by the Office Action do not teach a compound GRIN lens. Indeed, the Office Action states:

In one embodiment, shown in Figure 11, the objective lens system and relay optical system are constituted by a single gradient index lens, such as a so-called SELFOC lens (column 10, lines 18-26).

Office Action, page 2, 2<sup>nd</sup>-to-last sentence (underlining added).

A SELFOC lens refers to a “self-focusing” lens. While a SELFOC lens may be a GRIN lens, a SELFOC lens is not necessarily a compound GRIN lens. Indeed, many simple GRIN lenses can be self-focusing lens when the GRIN lenses are long enough. Attached Fig. 1B of the pending application shows an exemplary long GRIN lens 4’ that is self-focusing. In the GRIN lens 4’, light rays are bent back toward the lens’ axis at internal focal waist 11. Nevertheless, GRIN lens 4’ is a simple GRIN lens rather than a compound GRIN lens as in pending claim 1.

FIG. 1B



A compound GRIN lens requires at least two serially coupled GRIN lens, and as the above example illustrates, a SELFOC lens simply does not need two GRIN lenses. Indeed, the portion of Nishigaki cited by the Office Action states:

The rigid video endoscope body 91 differs from the rigid endoscope body 12 shown in, for example, FIG. 1 in that the objective lens system 17 and the relay optical system 18 are constituted by a single gradient index lens 92 such as a so-called SELFOC lens. The lens 92 has a columnar shape and a refractive index which is distributed along its optical axis. Basically, the lens 92 has a function equivalent to that realized by a serial arrangement of convex lenses.

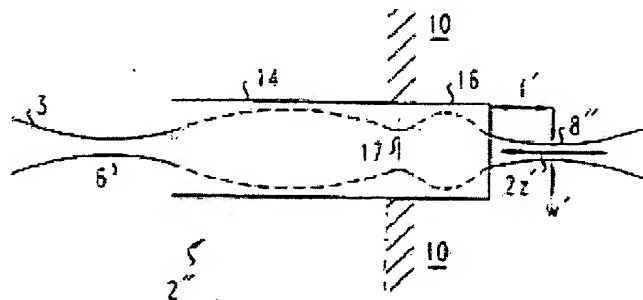
Nishigaki, col. 10, lines 18 – 26 (underlining added).

Here, Nishigaki discloses that his SELFOC lens is a “single gradient index lens 92”. Thus, the SELFOC lens 92 of Nishigaki is not a compound GRIN lens as in claim 1, because a compound GRIN lens requires at least two serially coupled GRIN lenses.

The Examiner may be confused by the last sentence in the above-cited portion of Nishigaki. That sentence states that the SELFOC lens 92 functions like a series of convex lenses. While a series of convex lenses may be a compound lens, such a series is not a compound GRIN lens, which requires multiple GRIN lenses. In particular, a convex lens is a lens with a curved refractive surface rather than a GRIN lens, which has a refractive index gradient. Thus, the last sentence of the above-cited paragraph of Nishigaki simply implies that a SELFOC lens can cause a light beam to focus at multiple points along its axis like a suitable series of refractive lenses. A simple GRIN lens can have this same property if the GRIN lens is sufficiently long, i.e., as illustrated in above Fig. 1B. That is, nothing about the above property is related to the GRIN lens being a compound GRIN lens.

Second, the above-reproduced portion of claim 1 also recites that the GRIN lens “includ[es] first and second serially coupled GRIN lenses of different pitch”. Nothing in the portions of Nishigaki relied upon in the rejection implies that the SELFOC lens includes serially coupled GRIN lenses of different pitch. The pitch of the GRIN lens is defined by twice the length over which the type of GRIN lens can focus light rays. Attached Fig. 1C of the pending application illustrates serially coupled GRIN lenses of different pitch. In the illustration, GRIN lens 14 focuses a light beam over a different length than GRIN lens 16.

FIG. 1C



Nothing of the cited parts of Nishigaki suggests such coupled GRIN lenses of different pitch. That is, the Office Action does not cite something to suggest coupling two GRIN lenses that have different lengths for oscillations of the diameters of light beams therein.

Due to the absence of prior art citations for each of the above-discussed features, pending claim 1 is novel over Nishigaki as applied by the Office Action.

#### Claims 2, 5, and 12

Each of claims 2, 5, and 12 is patentable over Nishigaki as applied in the Office Action, at least, by a dependence on pending claim 1.

**B) At page 3, the Office Action rejects claims 9 – 11 and 13 – 21 as obvious over a combination of Nishigaki and U.S. Patent 6,108,094 of Tani et al (Herein, referred to as Tani.).**

#### Claim 13

In part, pending claim 13 recites:

positioning the first end face of the compound GRIN lens near the region of the sample, the compound GRIN lens including first and second serially coupled GRIN lenses of different pitch;

With respect to the above limitations of pending claim 13, the Office Action states:

Nishigaki discloses a rigid endoscope which can be inserted into a hollow organ to provide image signals relating to a portion to be observed, as described in the rejection of claims 1-2, 5 and 12. However, Nishigaki does not disclose changing an incidence angle of light in order to perform a scanning function. ...

Office Action, page 3, numbered paragraph 2, sentences 2 – 3.

Applicant understands the above statements to mean that the Office Action again relies on the same portions of Nishigaki to teach the above-discussed features of the GRIN lens in pending claim 13 and relies on another cited reference, i.e., Tani, to teach the scanning step in pending claim 13.

As stated with respect to pending claim 1, the cited portions of Nishigaki do not teach either a compound GRIN lens or serially coupled GRIN lenses of different pitch. Thus, the Office Action also does not cite prior art to teach each limitation of the positioning step of pending claim 13. For that reason, the obviousness rejection of pending claim 13 is improper and should be withdrawn.

#### Claims 9 – 11 and 14 – 21

Each of claims 9 – 11 and 14 - 21 is patentable over the above-combination as applied in the Office Action, at least, by a dependence on either claim 1 or claim 13.

**C) At pages 4 - 5, the Office Action rejects claims 3 – 4 and 6 – 8 as being obvious over various combinations of Nishigaki and other art.**

Each of claims 3 – 4 and 6 – 8 is patentable over the above-combinations as applied in the Office Action, at least, by a dependence on pending claim 1.

#### Conclusion

For the above reasons, Applicant respectfully requests that all pending claim rejections be withdrawn.

Respectfully,



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